

1/24

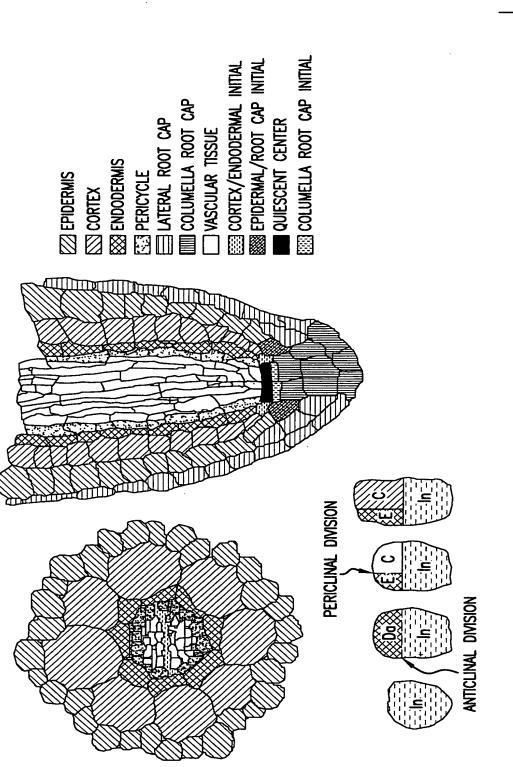
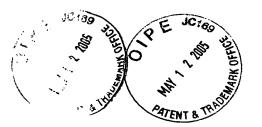


FIG. 1A



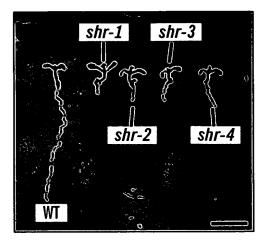


FIG. 1B

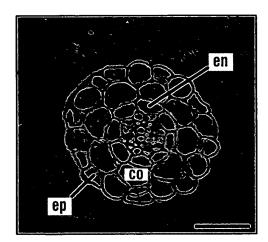


FIG. 1C

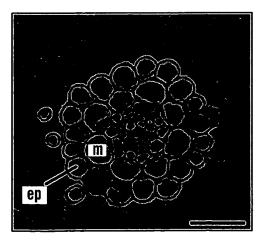


FIG. 1D



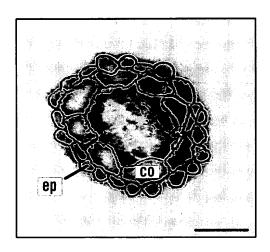


FIG. 1E

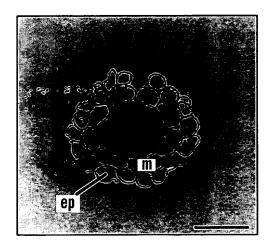


FIG. 1F

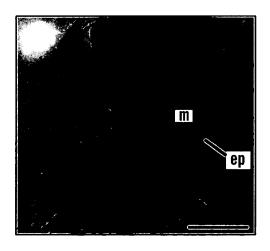


FIG. 1G

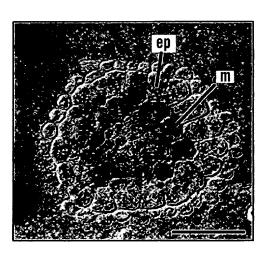


FIG. 1H



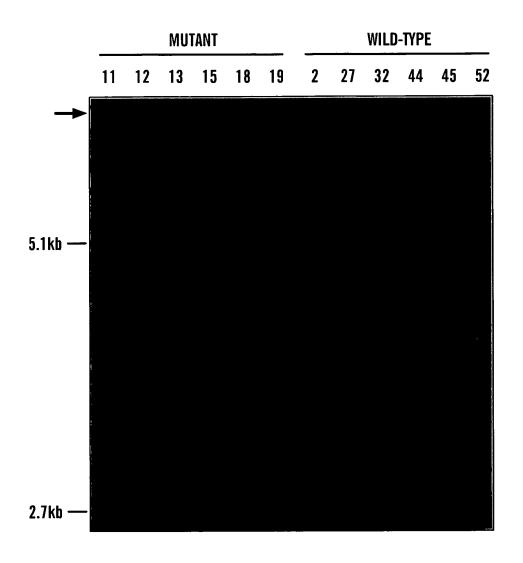


FIG. 2A



LS	144	PFIRFTQLTANQAILEAINGNHQAIHIVDFDINHGVQWPPLMQALADRYPA-PTLRITG
GAI	248	PYLKFAHFTANQAILEAFQGK-KRVHVIDFSMSQGLQWPALMQALALRPGGPPVFRLTG
RGA	301	PYLKFAHFTANQAILEAFEGK-KRVHVIDFSMNQGLQWPALMQALALREGGPPTFRLTG
SCR	379	PLVKFSHFTANQAIQEAFEKE-DSVHIIDLDIMQGLQWPGLFHILASRPGGPPHVRLTG
SHR	233	PWATFGHVAANGAILEAVDGE-AKIHIVDISSTFCTQWPTLLEALATRSDDTPHLRLTT

FIG. 2B

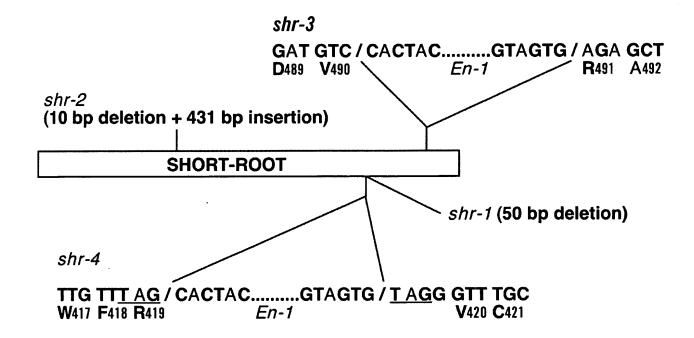


FIG. 2C



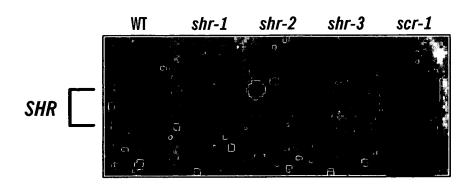


FIG. 3A

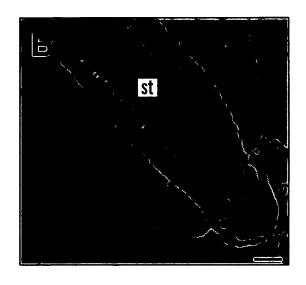


FIG. 3B

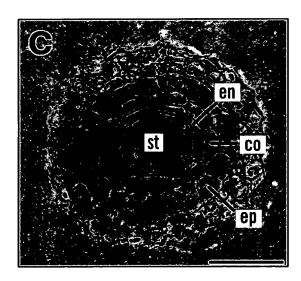


FIG. 3C



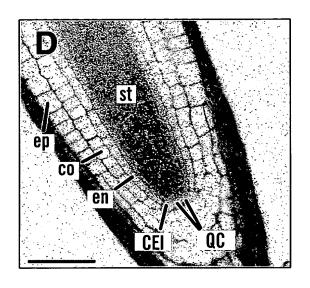


FIG. 3D

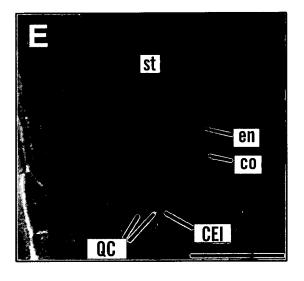


FIG. 3E

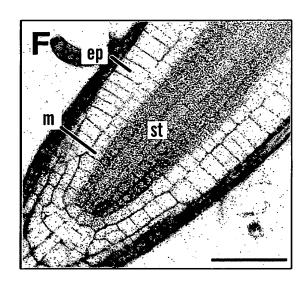


FIG. 3F

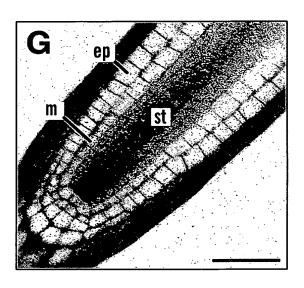


FIG. 3G



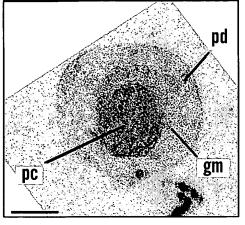


FIG. 4A

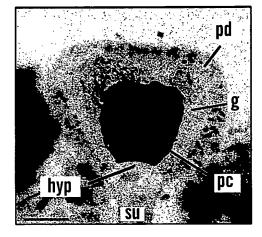


FIG. 4B

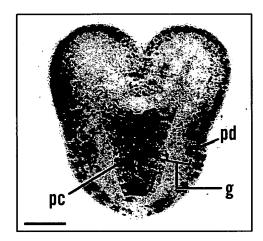


FIG. 4C

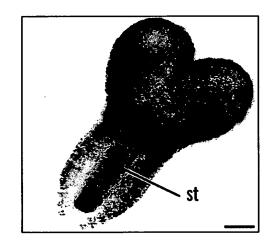


FIG. 4D

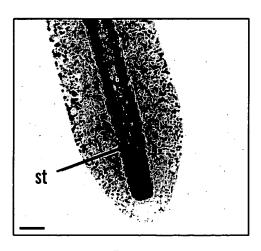


FIG. 4E

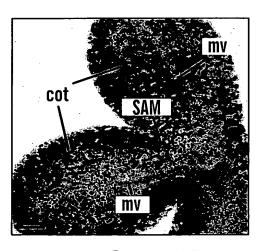


FIG. 4F



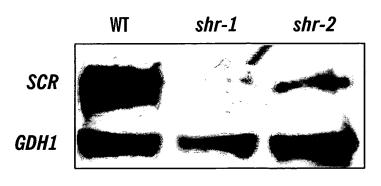


FIG. 5A

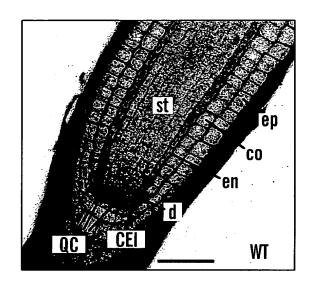


FIG. 5B

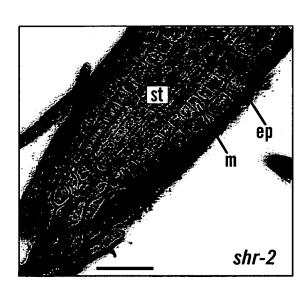


FIG. 5C





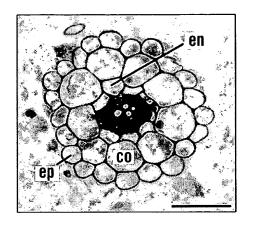


FIG. 6A

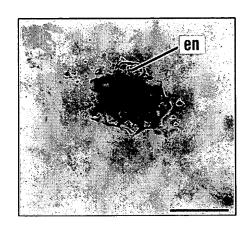


FIG. 6B

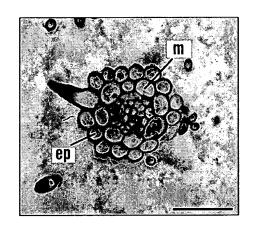


FIG. 6C

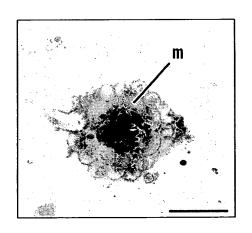


FIG. 6D





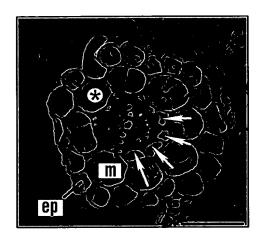


FIG. 6E

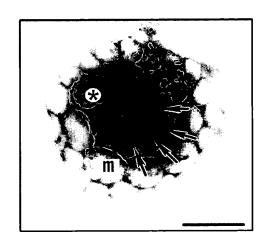


FIG. 6F

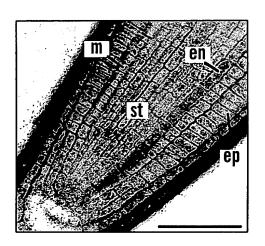


FIG. 6G

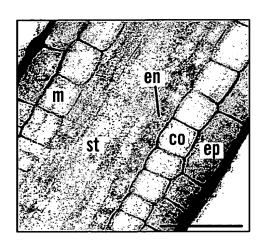


FIG. 6H





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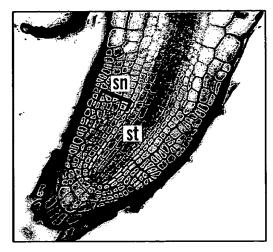


FIG. 7A

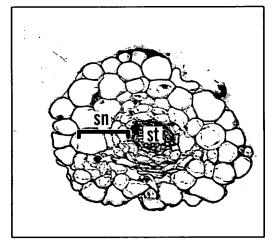


FIG. 7B

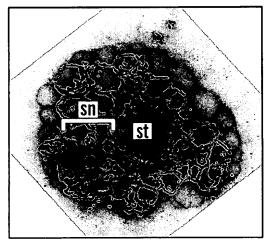


FIG. 7C

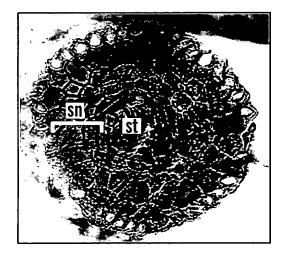


FIG. 7D

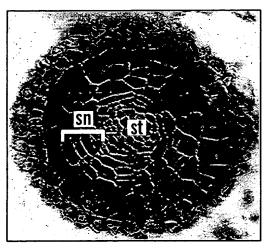


FIG. 7E



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DPSAFSIPQT PPSFDFSANA KWADSVLLEA ARAFSDKDTA RAQQILWTLN ELSSPYGDTE
QKLASYFLQA LFNRMTGSGE RCYRTMVTAA ATEKTCSFES TRKTVLKFQE VSPWATFGHV
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FIG. 11

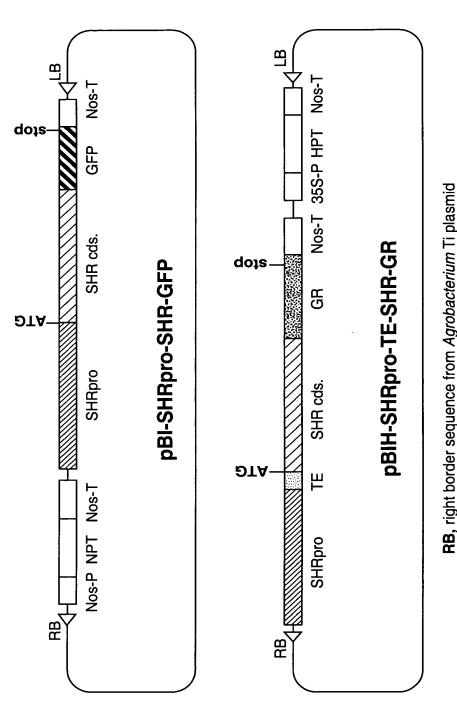
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2.5-kb SHORT-ROOT PROMOTER SEQUENCE

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AGAAGCAGAG CGTGGGGTTT CTTCTAATAA TTGTAGAAGA AACTGATCAT GAGAACATTT GATCTACCAG AGATGGTGAT GACTCATAAG CTACTGCATT AGTCTACACC AGATGGTGAT TTGAGATTA TTGTAGCT TAGGCTATAA TTGTAGATTAG ATCACTTTCT TCCACATCAT AGCTCTACCC TAGGCTATAA TTGTAGATTAG ATCACTTTCT TCCACAACTT TCCTACATAC TAGGAAATAT GAGAGATTAT CTAAATATG CCCAAACTT TCCTACATAC TAGAAAATAT GAGAGATTAT GTAATCTAGG TTTGCTTGTTT AAPTACAAA ATAACACACAC CATTTAGTTT TTAGAATTTT 300 TATTTTATTT TTTATAATGG TGCTACGTC GTGGCGATCA AATTATCCA 350 ATTTTGAGAC TTCGGGATTT TAAACGAAAT TAAACCAACTG GCAGGACAAAC 450 GGGGGGATTAG ACACATTAG TTCTTTATAT GACATTATA TTAGATTATA GAGAGATAA TAAACCAACTG GAGAAAACC 450 GGGGGAATTCA AATAACTCAA GTCCGTTGCT TAATTAGAGG TTCGCATATA 500 CATAAACCAC TAGACATATG GATAAATATG AACACACACA CCAAAAAACT 550 GGGAAATTCA AATAACTGTA AGAAATAATA AGTCCTCAGG TGGGAGATTC AAAAGAAGAAAA TTCAAAACAAC TAGGATTAAA CACACACAC AGCAAAAACACAC TAGAAAAAAAAAA						
GAGAACATTT GATCTACCAG AGATGGTATA GATCTATAGA ATGTAAATAT 100 CTACTGCATT ATGTCTAGCC TAGGCTATAA TCTAGATTAT ATCACTTTCT 150 CCCGAACCT TCCTACATAC TAGAAAATAT GGAGAGTAT TCTAAATATCAGA 200 TCTGCTGTT AATATACAAA ATAACACAA CATTTAGTTT TTAGATTTTT 300 ATTTTGATT TTTATATAGAT TGCTACGTAC GTGAGCATCA AATTATTCCA 350 ATTTTGAGAC TTCGGGATTT TAAACAGAAT AATTATATTCCA 350 ATTTTGAGAC ATCGCGTTAGA TGCCGTTGGT TAATTAGACC 400 GGGGGGATTAG AAGACATTAG GCAGAAAAACA 450 CATAAACCAG ATGACATTAG GCCGTTGGT TATATGAGAT TTCGAGATA AAGAGAGAGA 660 AAAGAGAGAGA CAATAGAGG TATATAGACT TAAAACAGAC TGGAACAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA						Γ0
CTACTGCATT ATGTCTAGCC TAGGCTATAA TGTAGATTTG ATCACTTCT CATATATAA GTTTGGAATT TTAGCATGAT ATAGCATGAT ATGCCATAAA TGTAGCATTAA TGTAAATATG 200 TCCGAAACAT TCCTACATAC TAGCAAATAT GGAGAGTTAT GTAAATATG 250 TTTGCTTGT AATATACAAA ATAACATCAT CATTTAGTTT TTAGATTTTT 300 ATTTTGAGCAT TTCGGGGATTT TAAAACGAAAT TAAACCAATG GGATGAGCTC 400 GGGGGGATTA TAAACGAAAT TAAACCAAACG GAGAGAAACC GAGAAAACCA 450 TGATGAGCCT ATGCATTAAA TGCTTTGTAT CGAGACAAC GAGAAAACCA 450 GGGGGGATAC ATCACTTAAA TGCTTTGTAT CGAGACAAC GAGAAAACCA TGCATAAACCA TGCACTATAACCA TGCACTATAA TGCTTTGTAT TAATTAGAGG TTCGCATATA 500 CATAAACCAG TAGACATAG GAGAATAAT AGCCCTCAC CCAAAAAAAT 550 GGGAAATCTA AATAAGTGTA GAGAATAATA AGCCCACCA CCAAAAAAACT 550 GGGAAATCTA AATAAGTGTA GAGAATAATA AGCCCACCA CCAAAAAAACT 550 CAAAGAAGAGCA CAATGAAAGGG TATATAGACAC TCTAAACAAAA ATGGCATGAC 650 TAAATAAAGGA GGGTTTTAAA TTGAAACAAA TAGGCATGAC 650 AAAAGAAACA AAAAAAATATA ATATTTAGAA TAAGACAAACA CAACAACAAA AAACAAAAAAAAAA			= =			
TCATTAATTA GTTTGGAATT TTAGCATGAT ATAGCATATA TCTAAATATG TCCAGAACTT TCCTACATAC TAGAAAATAT GGAGAGTTAT GTAATGTAGG TTTGCTTGTTATATACAA ATACATCAT CATTTAGTTT TTAGATTTTT TTTATATATG TTTGATTTT TTTATAATGG TGCTACGTAC GTGGCGATCA AATTATTCCA ATTTTTATTT TTTATAATGG TGCTACGTAC GTGGCGATCA AATTATTCCA ATTTTTGAGAC TTCGGGATTT TAAACGAAAT TAAACAATGC GCATGAGCTC GGGGGGATGA CAAGAGATTAA TGCCTTTGTAT CGGACCAAAC GAGAAAAACCA GGGGAGAATCA ATGCATTAAG TGCCGTTGGT TAATTAGAGG TTCGCATATA TGATGAGCCT AGACATATAG GCCTTTGTAT ACTGCACACAC CCAAAAAACT CATAAACCAG TAGACATATA GAGAATAATA ACTCCTCAGC TGGGACATC CATAAACCAG TAGACATATA GAGAATAATA ACTCCTCAGC TGGGACATC CAAAAACAG ATACATCAA ATAAGTGTA GAGAATAATA ACTCCTCAGC TGGGACATC CAAAAAGAGAC ATGCCCTAGA TTTCTGAACAA ACTCCCACG TGGGACATC CAAAAAAAAAAAAAAAAAAAAAAAAAAAAA						
TCCGAAACTT TCCTACATAC TAGAAAATAT GGAGAGTTAT GTAATGTAGG TTTGCTTGTT AATATACAAA ATAACATCAT CATTTAGATTT TTAGATTTTTA 300 TATTTTATTTTATAATAGT GTGCTACTAC GTGGCGATCA AATTATTCCA ATTTTGAGAC TTCGGGATT TAAACGAAAT TAAACAATGG GCATGAGCTC AGGGGGGATAG ACAAGATTAA TGCTTTTCTAT CGAGACAAAC GAGAAAATCA GGGGGGATAG ACAAGATTAA TGCTTTTCTAT CGAGACAAC GAGAAAATCA CATAAACCAG TAGACATTAG GATAAATATG AACACACAC CCAAAAAAGT CATAAACCAG TAGACATTAG GATAAATATG AACACACAC CCAAAAAAGT CATAAACCAG TAGACATATG GATAAATATG AACACACAC CCAAAAAAGT CAAAGAGAGA CAATGAAGAG TATATAGACAC CTAAACAAAA ATGGCATGAC GGGAAATCTA AATAAGTGTA GAGAATAATA AGTCCTCAGG TGGGACATTC CAAAGAAGAGA CAATGAAGAG TATATAGACAC CTAAACAAAA ATGGCATGAC CATACTGAGAG GATTTTAAA TTGAAACAAG TAGGATTGAA TGGACTGAC CATACTGAGAG TATTCTGAGAT AATAATTACA CATTGCTGTT TATATAAGAGT AAGAAATATA ATATTTGAGA AAATAATTACA CATTGCTGTT TATATAAGAG AAAAATAGTA ATATTTGAGA AAAATAATACA CATTGCTGTT TATATAAGAG AAAAATAGTA ATATTTGAGA AAAATAGTGC CAGAGAATGG GTATAATATGG AGAAAAAGGA AAAAATAGTGC CAGAGAATGG GAGAGAGTA GGAGCAAAG GAAAAAGGGA AAAAATAGTGC CAGAGAATGG GAGAGAGTA GGAGCAAAG GAAAATGGG AGCTTTGATT ATGTAACAC CATTCCTCT CTATTTTATA ATTATATATC CATTGCTCTA TGTTACATCC CATTCCTCT CTATTTTATA ATTATATATCA CATTGCTCTA TGTTACATCG ATCCTTAAGTATA CATTGCTAAGT ATTATATAGGT AAGCACACAC ACCTTAAGA ATTGCATACT TCATACAAAA ATGGCTAAGT ATTTTAATATC CATTGCTCAC CATTCCACTCA CACCTTAAGT ATTTTATATATA CATTGCTATAT TCCTTAATAGGT AACACACAAAAA TGGCTCTAAGA AATTTTATATACA CATTGCTCTC TATTTATATA ATTATATACAC CACTTTTCCA CACCTTTTCCA CACCTACTCA CACCTATGAA ATCCATACAAAA TTGCATAAGA CATTTTTCAA CATTGCTCAT TCTTTAAATA TCTTATATATA TCTTATATATA						
TTTGCTTGTT AATATACAAA ATAACATCAT CATTTAGTTT TTAGATTTTT TATATTTATATTG TGCTACCTAC GTGGCGATCA AATTATTCCA 350 ATTTTGAGGAC TTCGGGATTT TAAACGAAAT TAAACCAAAC GAGAAAACCA GGGGGGATAG ACAAGATTAA TGCTTTGTAT CGAGACCAACC GCAAAAACCA GAGAAAACCAG TAGACTATAG TGCCGTTGGT TAATTAGAGG TTCGCATATA 500 CATAAACCAG TAGACATATG GATAAATATA ACACCACCA CCCAAAAAACC GAGAAAATCA ATGCATTAGAG GAGAATAATA AGTCCTCAGG TGGGAGATTC AAAAGAGAGGA CAATGAGAG TATAAACAACA ACACCACCA CCCAAAAAACC GAAAAAACCACACACAAAAAACCACCACAAAAAACC GAGAAAACCACACACA						
TATTTTATTT TTTATAATGG TGCTACGTAC GTGGCGATCA AATTATTCCA ATTTTGAACA TTCGGGATTT TAAACGAAAT TAAACAATGG GCATGAGCTC 400 GGGGGGATCA CACAGATTAA TGCTTTGTAT CGAGCAAAC GAGAAAATCA 450 TGATGAGCCT ATGCATTAAG TGCCTTTGT TAATTAGAGG TTCGCATATA 500 CATAAACCAC ATGCATTAAG GATAAATTAG AACACACACA CCAAAAAAGT 500 GGGAAATCTA AATAAGTGTA GAGAAAATTAG AACACACACA CCAAAAAAGT 600 AAAGAGAGGA CAATGAAGGG TATATAACACAC TCAAACAAAA ATGGCATCAC 650 TAGTGAGGA CAATGAAGGG TATATAACACAC TCAAACAAAA ATGGCATCAC 650 TAGTGAGGA GGGTTTTAAA TTCAAACAAA ATGGCATCAC 650 TATATGGGAG AGGTTTTAAA TTCAAACAAA AATAATTACA CATTGCTGTT 750 TATATAAGGT AAGAGAATAT GACACACTAGA TTCTCTGAGAT AATAATTACA CATTGCTGTT 750 TATATAAGG AAAAAAAGTA AATATTTGAAA AAAAATACAA AAAAATACGA AAAAAATACGA AAAAAAAAAA						
ATTTTGAGAC TTCGGGATTT TAAACGAAAT TAAACAATGG GCATGACCTC GGGGGATAG ACAAGATTAA TGCTTTGTAT CGAGACAAAC GAGAAAATCA 450 CATAAACCAG TAGACATTAG GCCGTTGGT TAATTAGAG TCCGATATA CATAAACCAG TAGACATATG GAGAAAATTG AACACACAC CCAAAAAAGT 550 GGGAAATCTA AATAACTGTA GAGAATATA AGTCCTCAGG TGGGAGATTC AAAAGAGAGG CAATGAAAGG TATATAGACT CTAAACAAAA ATGGCATGAC CATAAACAAG AGGGTTTTAAA TTGAAACAAG TAGGATTGAA GAACAACAAC ACAAGAAGA GAGTCTTAAA TTGAAACAAG TAGGATTGAA GAACAAGAAA ACAAAGAAGA AAGCCCTAGA TTTCTGAGAT AATAATTACA CATTGCTGTT TATATAAGGT AAGAGAATAT GACACATTGG TTGGTTTCTT ACGGTAAAT GTGAAAGAAAA AAAAATAGTA ATTATTTGAGA AAAATCAAAA TAGTAAAAGA GCAAGAAAA AAAAATAGTA ATATTTGAGA AAAATCAAAA TAGTAAAAGG GTATATATGG AGAGAAGAG GCAAATGGG AAAATCAGAA ATGGTAAAT GAGAGAGATTA GAGAGAAAA GCAAATTGG GTGAAGAAAA AAAAATAGTA ATATTTTGAGA AAAATCAAAA TAGTAAACGG AAGAGAGTTA GGAGCAAAG GCAAATGTGG AGCTTTGATG ATGTTGATG CATTCTCTCT CTATTTTATA ATTATATTCA CATGTCTCA ACCTATGAA CAATCACAAA ATGGTCATGA AACTTTTGCA ATTTTATATAT CATGTAACAAA ATGGTCATGA AACTTTTGAA TCTTTAATGT TAAATGGTA ACCTTTAAAA TATTATATAT CATGTATATA TCTTTATAGGT TAAATGGTA ACCTTTAAAA TATTATATATA CATGTATATA TCTTTATAGGT TAAATGGTA ACCTTTAAAA TATTATATATA CATGTATATA TCTTTATAGGT TCTTTAATTA GCATTTTTCAC ATTTTTTAAA AATTAGTCT GATCTTCATTCAT TCTTTAATTA GCATTTTTTAAA AATTAGTCT GATCTTTCAT TCTTTAATTA GAGAAAATAA ACTTTTTCAC ATTTTCATTC TTGATTATTG TCTTTAATTA GAGAAAATAA ACTTTTTCATG CACCAGTGTT GATTGATAT TAGTAGGACA TTCCAAAAA CGATTATGAG TTTTGTTAGTC TTGATTATAT TAGTAGGACA TTCTAAAA CGATTTTCATG CACCAGTGTT GATTGATTAA TAGTAGGACA TCCTAAACAAA CGATTATTCAC CACCAGTGTT TATATAAAC AAACATCGTA ACACTTGT TGGTTTCATC TACCACTAATT TCTTAAAAAT TAGTAGGACA TCCTAACTCT TACCACTATT TGGTGTTTT TATTTTACAC CACCAGTGTT GATTGATTTT TAGTAGAACACACAAAAAAAAAAAAAAAA						
GGGGGGATAG ACAAGATTAA TGCTTTGTAT CGAGACAAAC GAGAAAATCA TGATGAGCCT ATGCATTAAG TGCCGTTGGT TAATTAGAGG TTCGCATTATA 500 GGGAAATCTA ATGACATATG GAGAATATG AACACACAC CCAAAAAAGT GGGGAATCTA AATAAGTGTA GAGAATATATA AGTCCTCAGG TGGGAGATTC AAAGAGAGGA CAATGAGGG TATATAGACT CTAAACAAAA ATGGCATGAC AAAGAGAGGA CAATGAAGGG TATATAGACT CTAAACAAAA ATGGCATGAC TTAGTGGAGA GGGTTTTAAA TTGAAACAAG TAGGATTGAA GACACACACA ACAAGAAAA AAGAATAT GACACATTGG TTGGTTTT ACGGGAGAAAA AAAAATAGTA ATTATTAGAA AAATCTAAAA TAGGATGAA 650 TATATATAGGT AAGAAGAA ATAATTTCAA AAATCTAAAA TAGTAAAACAG GTGAAGAAAA AAAAATAGTA ATATTTGAA AAAATCTAAAA TAGTAAAACAG AGAGAGGTTA GAGAGAAGA AGAAAAGGA AAAATCTAAAA TAGTAAACAG AGAGAGGTTA GAGAGAAA GCAAATGGG AAAATCTGAAAA AAGAATAGTA GAGAAAAGGA AAAATCTAAAA TAGTAAACAG AGAGAGGTTA GAGAGAAAGA AGAAAAGGA AAAATCTAAAA TAGTAAACAG AGAGAGGTTA GAGAGAAAGAG AGAAAAGGA AAAATCTGAC ACCTATGATC CATTCTCTC TATTTTATA ATTATATTCA CATGTCTCTA TGTTACTATG ACATTCTCTC TATTTTATA ATTATATTACA CATGTCTCA TGTTACTATG ATCATACAAA ATGGTCATGA ACTTTTGCA ATTTCATAT TGTTACTATG TTAAATTA GCACTTTACAC ATGTTTTGAA AATTACTCT TGTTACATAT TGTAGATGCT ACCTTTTACAC ATGTTTTTGAA AATTACTCT GATCTCAAAAA TTCATACAAA ATGGTCATGA ACTTTTGCA ATTTCATCT TCTTTAATTA CATGTTTTT TCAGAGACTC TATGCAAAAA TTCAGAGCGT TCAGAACTCT TACACTAATT TCTTAAAAAT 1200 ATTCATAAAAA TTCAGAGCGT TCAGAACTCT TACACTAATT TCTTAAAAAT 1300 AATCGATAAA AGAGTCTTTT TATTTCAG CACCAGTGTT GATAGTAACG TAGTCCAAAAA TTCAGAGACTC TACACATATT TTGGTGTTTA TGATTGGTTA TAGTAGGAAA AGAGTCTTTT TATTTTCAC CACCTGAGAC TTGGGATCA AACACTCGAA AGAATCGAT GGTTTTACT TTTTTTACC CACCAGTGTT GATAGTAACA CAGATCGTAA AACACTTGCT TGGTTTACT TATTTTAC CACCATACTCA TATTATATAAC GAATTATTA TATATATAC GATTTTTTCAT GAATTTTAC CACCATACTCG TAGTACTTCA AACACTTGCT TGGTTTAC TATTTTAC CACCATACTCA TAGTACTTCA AACACTTGCT TGGTTTACT TATTTTAC CACCATACTCA TATTATATAAC CACGTAACTC TACACTACTC TACAACTATC TAACTATTC CACCATACTC TAAACATTCCAC TACAACTATC TAACAAATACA ACTCCCATACTC TAAAAATATAA AACACTTCCT TACAACTATC TAACAAATACA ACTCCCATACTC TAAAAAATATAA AAAAAAAAA AAAAAAAAAA						
TGATGAGCCT ATGCATTAGA TGCCGTTGGT TAATTAGAGG TTCGCATATA CATAAACCAG TAGACATATG GATAAATATG AACACACACA CCAAAAAAAGT 500 GAGAAATCTA AATAAGTGTA GAGAATAATA AGTCCTCAGG TGGGAGATTC AAAGAGAGGA CAATGAAGGG TATATAACACACACA TGGGAGATTC CATAGAGAGGA CAATGAAGGG TATATAACACACACACACACACACACACACACACACACA						
CATAAACCAG TAGACATATG GATAAATATG AACACACAC CCAAAAAAGT 6GGAAATCTA AATAAGTCTA 6AGAATAATA AGTCCTCAGG TGGACATTC 6AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA						
GGGAAATCTA AATAAGTGTA GAGAATAATA AGTCCTCAGG TGGGAGATTC AAAGAGAGGA CAATGAAGGG TATATAGACT CTAAACAAAA ATGGCATGAC TTAGTGGAGA GGGTTTTAAA TTGAAACAAG TAGGATTGAA GAACAAGAAA ACAAAGAAGC ATGCCCTAGA TTTCTGAGAT AATAATTACA CATTGCTGTT TATATAAGGT AAGACAATT GACACATTGG TTGGTTTCTT ACGGGTAAAT GCGAAGAAA AAAAATAGTA ATATTTGAGA AAAATAGTGG CAGAGAAGA AGAAAATAGTA ATATTTGAGA AAAATAGTGG CAGAGAAGG GTATATATATG GAGAGCAAAG GAAAAGGGA AAAATCAAAA TAGTAAAAGA AGAGAGGTTA GGAGGCAAAG GCAAATGG AGCTTCATAT ATGTAAAAGA GAAAAAGGGA AAAATAGTGG CAGCCTCC CACTCACTCA CACCTATGAA ACGCCGTCAG CTTTCCTTCA CGCCTGCTCC CACTCACTCA CACCTATGAA ATCATACAAA ATGGTCATGA ATTATATATCA CATGTATATA TCTTCATCATC TATATATATA CATGTATATAT TCTTCATCATC TATATATATA CATGTATATAT TCTTATAGGT T100 ATCATACAAA ATGGTCATGA AACTTTTGAA AATTAGTCTG GATCGTAAAAT TCAGAGCATT TCTTTAATATA CATGTATATAT TCTTGATATATT 1150 ATCATACAAA ATGGTCATGA AACTTTTGAA AATTAGTCTG GATCTGAAAT 1200 CTTTTAATTA GCATTGTTTT GTTGGTCAAC GTTTAATTTC TTGATTATTT 1250 AATCGATAAA GAGAAAATAG AGTTTTCATC CACCAGTGTT TATATTTT TTGATTATATG 1250 AATCGATAA GAGAAAATAG AGTTTTCATC CACCAGTGTT TATATTATT 1250 AATCGATTAA GAGAAAATAG AGTTTTCATC CACCAGTGTT TATATTATC TATAGGAC TTCTAAAAAT 1200 AATCGATTAA GAGAAAATAG AGTTTTCATC CACCAGTGTT TATATTATC TATAGTACAAAA TTCAAAAAA TACAGACCT TACACTTAATT TTTGATTATATC 1300 AATCGATTA GAGACATTTTT TATTTTTACAC CACGTGTTT TATATTATC 1400 AAAATTGATAT TAGTAGGACA TTCTAACTTT TTTTTTTATTT TTTTTTATTT 1400 AAAAATTGATA TAACAAGGA TTCTAACTTT TATTTTTACC CACGAGTATT TATATAAAC 1550 AAACATCGTA AACACTTGGT TGGTTTTCAT GATAGTAACT 1760 AAAAATATATA TAACAAGCAA TTCCTATTTA AATTCAATATA TACACTGAACT TTCTATATTTT CTGATGAGAC TTGGGATCGA 1500 AAAAATAATA TAACAATGCAT TTCTTTTTTT CTGAAGAGAA AATTCATATTA TACACTGAACT TTCCTTTTA TTTTTTTTT CTGAGAAAA AAAAAAAAAA						
AAAGAGAGGA CAATGAAGGG TATATAGACT CTAAACAAAA ATGGCATGAC TTAGTGGAGA GGGTTTTAAA TTGAAACAAG TAGGATTGAA GAACAAGAAA ACAAAGAAG ATGCCCTAGA TTTCTGAGAT ATAGATTACA CATTGCTGTT TATATAAAGGT AAGAGAATAT GACACATTGG TTGGTTTCTT ACGGGTAAAT GTAAACAAA AAAAATAGTA ATATTTGAGA AAAATAGTAC CATTGCTGTT TATATAAAGGT AAGAGAATAT GACACATTGG TTGGTTTCTT ACGGGTAAAT GTGAAGAAAA AAAAATAGTA ATATTTGAGA AAAATAGTGG CAGAGAAGG GTAATATATGG AGAGGACAAG GCAAAAGGGA AAAATAGTGG CAGAGAATGG AGAGAGGTTA GGAGCAAAG GCAAATGTGG AGCTTCAGTG ATGTTGATGC ACCCTCAC CTTTTCTTCA CGCCTGCTCC CACTCACCA CACCTATGAA ACGCCGTCAG CTTTTCTTCA CGCCTGCTCC CACTCACAC ACCCTATGAA ATGGTCACAA ATGGTCATGA AACTTTTGAA ATTATATAT CATGTATATA TCTTATAGGT 1000 CATTCATCACAA ATGGTCATGA AACTTTTGAA AACTTTTGAAT TCTTATAGGT 1150 TGTAGATGCT AGCTTTTCAC ATGTTTTGAA AATTAGTCT GATCTGAAAT 1200 TCTTTAATTA GCATTGTTT GTGGGTCAAC GTTTAATTTC TTGATTATTG 1250 ATGTCAAAAA TTCAGAGCGT TCAGAACTCT TACACTAATT TCTTAAAAAT 1300 TAGTACATAA GAGAAAATAG AGTTTTCATG CACCAGTGTT GATAGTACAG 1350 AATCGGTAA AGACTCTTT TATTTCAC CACCAGTGTT GATAGTACAG 1350 TAGTCCGCGA ATGTCTAAAA CGATTATGAG TTTTTTATATT TTTGAAAAT 1400 GAATTGGTAT TAGTAGGACA TTCTAACTTT TTTTTTAGGC TAGTATTAA 1450 GAATTGGTAA AACACTTGGT TGGTTTCAC CACTGAGAC TTTGGATTCA 1400 GAATTGATAA AACACTTGGT TGGTTTCATC TACTTAATAT TCTTAGATTA 1450 GAATTGATAA AACACTTGGT TGGTTTCATC TATTTGAGAC TTTGGGATCGA 1500 TAGTACTTAA AACACTTGGT TGGTTTCATC TATTTTAACC CACTAGAGA TTGGGATCGA 1500 AAAAATAATA TAACATGCAT TCTAACTTT TTTTTTAGAC TTTGGGATCGA 1500 ATAAATTTTA TTTTGAAGAA GAATAATTG CACGAGAGA ATATCTATCT TTTTTTATACC CACGTAGAGA TTTTTAACATC TACATATTT CTTCAGGACT TTTGGATTAA 1500 ATAAATTTA TATTATATA GAAATATTG CACCACTAAG CACTACTGGA TTTTTATATTT TTTCTACTT TTCTCTTTTT TTCTCTTTTT TTCTCTTTTT TTCTCTTTTT TTCTCTTTTT TTCTCTTTTT TTTCTCTTTTTT					• • • • • • • • • • • • • • • • • • • •	
TTAGTGGAGA GGGTTTTAAA TTGAAACAG TAGGATTGAA GAACAAGAAA 700 ACAAAGAAGC ATGCCCTAGA TTTCTGAGAT AATAATTACA CATTGCTGTT 750 TATATAAAGGT AAGAGAATAT GACACATTGG TTGTTTCTT ACGGGTAAAAT AAGAGAAAAAAAAAA						
ACAAAGAAGC ATGCCCTAGA TTTCTGAGAT AATAATTACA CATTGCTGTT TATATAAGGT AAGAGAATAT GACACATTGG TTGGTTTCTT ACGGGTAAAT 800 GTGAAGAAAA AAAAATAGTA ATATTTGAGA AAATCTAAAA TAGTAAAAGAG GTATATATGG AGAGAGAGG AGAAAAGGGA AAAATTAGTG CAGAGAATGG 900 AGAGAGGTTA GGAGGCAAAG GCAAATGTG ACGTTTGATG ATGTTAATGC ACGCCGTCAG CTTTCTTCA CGCCTGCTCC CACTCACTCA CACCTATGAA 1000 CATTCTCTCT CTATTTTATA ATTATATTCA CATGTCTCTA TGTTACTATG 1050 TAAATGGTGA CCACTTAAGT ATTTATATAT CATGTATATA TCTTATAGGT 1100 ATCATACAAA ATGGTCATGA AACTTTTGCA ATTTAATAT CATGTATATA TCTTTATAGGT 1100 ATGTCAAAAA TTGGTCATGA AACTTTTGCA ATTTAATTC TTGATTCT TTTTATATG 1100 ATGTCAAAAA TTCAGAGCGT TCAGAACTCT TACACTAATT TCTTAAAAAT 1200 TCTTTAATTA GCATTGTTTT GTTGGTCAAC GTTTAATTTC TTGATTATTG 1250 ATGCCAGGA ATGCCTAAAA CGATTATGAA CACACTATT TTCTTAAAAAT 1300 AATCGATTAA GAGAAAATAG AGTTTTCATG CACCAGTGTT GATAGTAACA 1350 AATCGATTAA GAGAAATAG AGTTTTCATG CACCAGTGTT TGATAGAACT 1350 GAATTGGTAA AGAGACATTT TATTTTAACC CACGTGTTT TGATTGGTTA 1400 GAATTGGTAA AACACTTGGT TGGTTTCATG TTTTGGTCATTT TTGGTTAAC 1550 AAACATCGTA ATTATATACAC CACTTAGT TTTTTTAACC CACTTAGACT TTGGATACTAAC 1500 AAACATCGTA ATTATATACG GATTTTTTC GGAATTTTA GCCATTATTTA 1450 TAAGTACTTGA AACACTTGGT TGGTTTCATG TATTTTGGCC TATATATAAC 1560 AAACATTGGA AACACTTGGT TGGTTTCATG TATTTTGGCC TATATATAAC 1560 AAACATCGTA ATTATATACAC GATTTTTTTC GAATTTTAC GCCATATCTG 1660 AAACATTGAA ACACTTGGT TGGTTTTCATG TATTTTAGGCC TATATATAAC 1650 AAACATTGAA ACAAAAGAAG GAAATAAGAG GGAAGGTTAC TTGGGTGAT 1750 CACGTAAGT ATTTTAATATA AGAATAGAG GGAAGGTTAC TTGGGTGAT 1750 CACGTAAGT ATTTTTTT TCAGAACAAT TATTTTTTT CTCAGGACTT 1750 AGAATAAAAA AAATAATAA AGAATATTG TATATTTTT CTCAGGACTT TTTTTTTTT CACCACATATC CACATACTT TTTTTTTT		•				
TATATAAGGT AAGAGAATAT GACACATTGG TTGGTTTCTT ACGGGTAAAT GTGAAGAAAA AAAAATAGTA ATATTTGAGA AAATCTAAAA TAGTAAAGAG GTATATATGG AGAAGAAGAG AGAAAAGGGA AAAATAGTGG CAGAGAATGG GAGAGGGTTA GGAGGCAAAG GCAAATGTGG AGCTTTGATG ATGTTGATGC ACGCCGTCAG CTTTTCTTCA CGCCTGCTCC CACTCACTCA CACCTATGAA ACGCCGTCAG CTTTTCTTCA CGCCTGCTCC CACTCACTCA CACCTATGAA CATTCTCTCT CTATTTTATA ATTATATATCA CATGTCTCTA TGTTACATGT TAAAATGGTGA CCACTTAAGT ATTTATATAT CATGTATATA TCTTATAGGT TACATACAAA ATGGTCATGA AACTTTTGCA ATTTCAATCT ACTTGTCAT TCTAGAGTCCT AGCTTTTCCA ATGTTTTGAA AATTAGTCT GATCTGAAAT TCCAGAGACTC ACCTTTTCAC ATGTTTTGAA AATTAGTCT GATCTGAAAT TCCAGAACAT TCCAGAACTCT TACACTAATT TCTTAAAAAT TCCAGAACAT CACCAGACTCT TACACTAATT TCTTAAAAAT AATCGATTAA GAGAAAATAG AGTTTTCATG CACCAGTGTT GATAGTACG AAACTGGATA AGAGATAAAA CGATTATAGAG TTTGGTGTTT TGATTAGTT 1400 GAATTGGTAT TAGTAGGACA TTCTAACTTT TTTGTTAGTC TGATTAGATC GAAACTCGTA AACACTTTGT TATTTTACAC CACGTGTT TGATAACG TAGTCACTAA AACACTTGGT TGGTTTCATG CACCAGTGTT TGATAACG AAACACTGTA AACACTTGGT TGGTTTCATG TTTTGGTCT TTTTATAAAC TAAGTACTTGA AACACTTGGT TGGTTTCATG TATTTGGCCT ATATAAAC TAAGAACTAGA AACACTTGGT TGGTTTCATG TATTTGGCCT ATATAAAC TAAGAACTGAA ACCACTTGGT TGGTTTCATG TATTTGGCCT ATATAAAC TAAGAACTGTA ATCACACCA TGCGTTTTC AATTCATCT TATTTAGCC CACGATAGA CCCACTAACG CACGTAAAGA ACAAAGAAG GAAATAAGAG GGAAGTTATTAC GCCATAACTCG 1650 ATAAGTATATA TAACATGCAT GTCGTTTTCA TATTTGGCCT ATATAACC 1650 ATAACTAATAT TATTATATATA GAAATATTG CATGAGAGAG ATATCTAATTT 1700 ATAAATTTTA TTTTAAGAAACACA GAAAAAAAGA GAAATAAGAA GAAAATAAGA GAAAATAAGA GAAAATAAGA GAAAATAAGA GAAAATAAGA AAAACAAAA CACAATATC TAACCTACACTAG 1850 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 ATATCTACTT AATGAAACAAA AAAACAAA CACAATATC ACCCACTAGA CCATTAAGC 1900 AAAAAATAATA AAGAAAAA AAAAAAAAA CACAATTCTTA AACTAAAAAAAA						
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AATCGATTAA GAGAAAATAG AGTTTTCATG CACCAGTGTT GATAGTAACG 1400 GAATTGGTAT TAGTAGGACA TTCTAACTT TTTGTTAGTC TGTTGATTTA 1450 GAATTGGTAT TAGTAGGACA TTCTAACTTT TTTGTTAGTC TGTTGATTTA 1450 GGATGCGTAA AGAGTCTTTT TATTTTACAC CAGTTGAGAC TTGGGATCGA 1500 TAGTACTTGA AACACTTGGT TGGTTTCATG TATTTGGCCT ATATATAAAC 1550 AAACATCGTA ATTATATACG GATTTTTTC GGAATTTTA GCACATACTG 1600 TAAGTATATA TAACATGCAT GTCGTTTTCA AATTCATATG ATGAACGATC 1650 CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACCTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAAGAAA 1950 TATATTTGCC CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGT CAAAAACTACA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAAGAA ATATTGTTC AAAGGACAT CTTCTCTCC 2150 TAATTATTTGT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAATCC 2200 AAAAATAAAG AGAGAAGAA ATATTGTTCA AAAGTGGTCT CTTCTCTC 2250 CTCTTTTTTTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAATCC 2200 AAAAATAAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATC 2250 CTCTTTTTTTT ATTCCTTAC AACTCACTT CATCAACACT TACACACAT TACACACAC						
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GAATTGGTAT TAGTAGGACA TTCTAACTTT TTTGTTAGTC TGTTGATTTA 1450 GGATGCGTAA AGAGTCTTTT TATTTTACAC CAGTTGAGAC TTGGGATCGA 1500 TAGTACTTGA AACACTTGGT TGGTTTCATG TATTTGGCCT ATATATAAAC 1550 AAACATCGTA ATTATATACG GATTTTTTC GGAATTTTAC GCCATATCTG 1600 TAAGTATATA TAACATGCAT GTCGTTTCA AATTCATATG ATGAACGATC 1650 CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACCT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAG ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAATAAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTTT ATTCTCTAGT CTTTTAAATT ACAAAAAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAAT TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAA AAAAAAAAAA						
GGATGCGTAA AGAGTCTTTT TATTTTACAC CAGTTGAGAC TTGGGATCGA TAGTACTTGA AACACTTGGT TGGTTTCATG TATTTGGCCT ATATATAAAC 1550 AAACATCGTA ATTATATACG GATTTTTTC GGAATTTTAC GCCATATCTG 1600 TAAGTATATA TAACATGCAT GTCGTTTTCA AATTCATATG ATGAACGATC 1650 CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGT CAAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAAATAAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAAACAGTC TACAAAGTCC 2200 CACCAAACC CATTCTTAC AACTCACCTT CATCAGATT TACCACACAA 2300 CCACCAAACC CATTCTTAC AACTCACCTT CATCTAGATT TACCACACAA 2400 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTTCT TATTCATTAA AAAAAAAA						
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AAACATCGTA ATTATATACG GATTTTTTC GGAATTTTAC GCCATATCTG TAAGTATATA TAACATGCAT GTCGTTTTCA AATTCATATG ATGAACGATC CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTTGT CAAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTCCCCA 2100 AAAAAATAAAG AGAGAGAAA ATATTGTTCA AAAGTGGTCT CTTCTCTCT 2150 TAATTATGTT TCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAAATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACCACAAT 2300 CCACCAAACC CATTCTCAC AACTCACCTT CATCTAGATT TACCCACACC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACCAACGAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
TAAGTATATA TAACATGCAT GTCGTTTTCA AATTCATATG ATGAACGATC CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAG ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
CACGTAAGTG CTACTACTCC TACAATATTG CATGAGAGAG ATATGTATTT 1700 ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAG ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCAC AACTCACCTT CATCTAGATT TACCACACAC CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	AAACATCGTA		_			
ATAAATTTTA TTTTGAAGAA GAAATAAGAG GGAAGGTTAC TTGGGTGGAT 1750 CGATGTGAAA ACAAAAGAAG AAAAAGCGAA ACCCACTAAG CCATTACATG 1800 ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
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ATATCGACCT TCTTATCTTT TTCCTCTTTA TTTTATTTTT CTCAGGACTT 1850 TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	ATAAATTTTA	TTTTGAAGAA	GAAATAAGAG	GGAAGGTTAC	TTGGGTGGAT	
TTTTCTACTT AATGAAACCT CCAAACTATC TAACTAATAC ACTCCCATGT 1900 AGAATAAAGA AAATTATATA AGATATTGTT GATATTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
AGAATAAAGA AAATTATATA AGATATTGTT GATATTTTGT AACTAGAAAA 1950 TATATTTGCT CTGTAATTTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
TATATTTGCT CTGTAATTT TCGTAAGTTA AATCAACATT TTTCAGTAGA 2000 AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCACACAC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
AACAAATATT ACTGCAAAAA GTAGGATCAT TATTTTTGTC CAAAATCTCA 2050 GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
GTTAGCTATA GGGTTGTAGT AAAAACAAAA CACATTCTTG ATTTGCCCCA 2100 AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA				-		
AAAAATAAAG AGAGAGAAGA ATATTGTTCA AAAGTGGTCT CTTCTCTCTC 2150 TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	AACAAATATT	ACTGCAAAAA	GTAGGATCAT	TATTTTTGTC	CAAAATCTCA	
TAATTATGTT TTCACTAAAC CCAATTAGAT TCAAACAGTC TACAAAGTCC 2200 AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	GTTAGCTATA	GGGTTGTAGT	AAAAACAAAA	CACATTCTTG	ATTTGCCCCA	2100
AAAAGATAAA CATGGGACAA CAATTCGATG CAAAAAATCC TCTTTTCATG 2250 CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	AAAAATAAAG	AGAGAGAAGA	ATATTGTTCA	AAAGTGGTCT	CTTCTCTCTC	2150
CTCTTTTTTT ATTCTCTAGT CTTTTAAATT ACTAATAAAA ACTCACAAAT 2300 CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
CCACCAAACC CATTCTCTAC AACTCACCTT CATCTAGATT TACCCACTCC 2350 CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA						
CACCGAGAAA CACAAGAAAA AAAATATACA TATATAAATA TACAAGACAA 2400 CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	CTCTTTTTTT	${\tt ATTCTCTAGT}$	${\tt CTTTTAAATT}$	ACTAATAAAA	ACTCACAAAT	
CACATGATGC TGATGCAATA TACACAACAA AGTATTAAAT CTTAGATATT 2450 GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	CCACCAAACC	CATTCTCTAC	${\tt AACTCACCTT}$	CATCTAGATT	TACCCACTCC	2350
GTGGGTCTCC CTTTCTTCTA TTCATTTCT TATTCATTAA AAAAAAAA	CACCGAGAAA	CACAAGAAAA	AAAATATACA	TATATAAATA	TACAAGACAA	
	CACATGATGC	TGATGCAATA	TACACAACAA	AGTATTAAAT	CTTAGATATT	2450
ጥር	GTGGGTCTCC	${\tt CTTTCTTCTA}$	${\tt TTCATTTTCT}$	TATTCATTAA	AAAAAAAAA	2500
2502	TG					2502



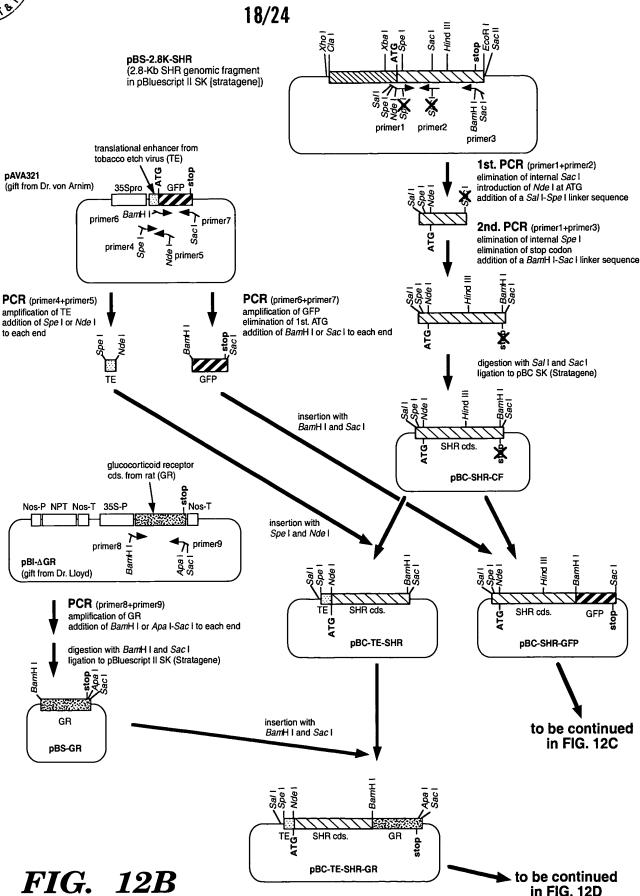
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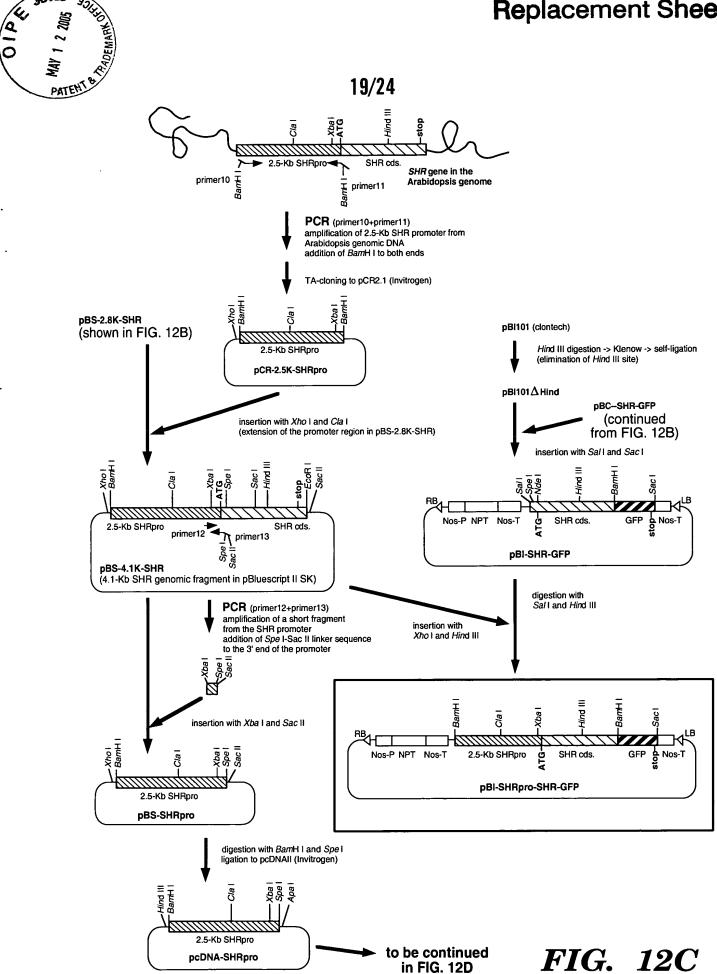


SHRpro, 2.5-Kb 5' upstream region of SHORT-ROOT gene TE, translational enhancer element of tobacco etch virus SHR cds., SHORT-ROOT protein coding region GR, rat glucocorticoid receptor domain coding sequence GFP, green fluorescent protein coding sequence Nos-T, transcriprion terminator of nopaline synthetase gene 35S-P, cauliflower mosaic virus 35S promoter HPT, hygromycin phosphotransferase coding sequence NPT, neomycin phosphotransferase coding sequence LB, left border sequence from Agrobacterium Ti plasmid

FIG. 12A









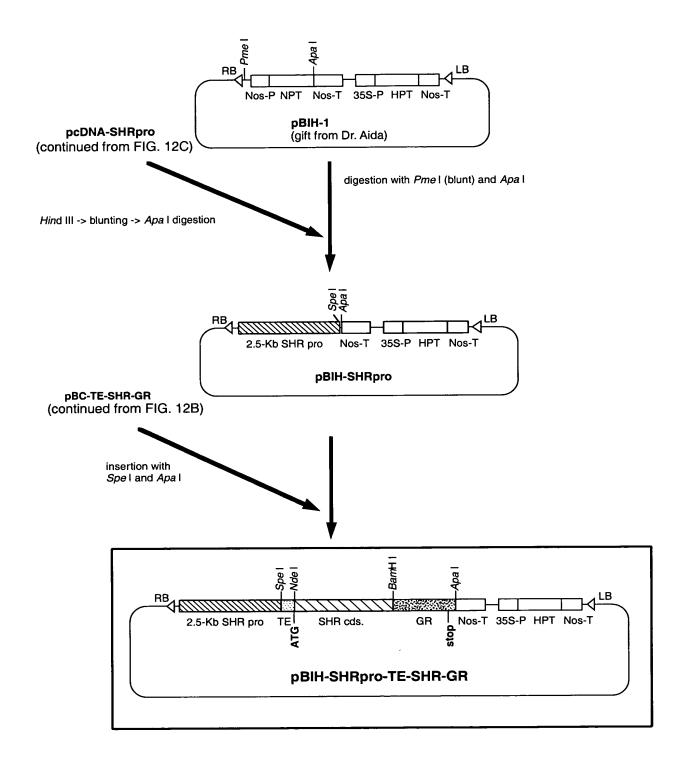
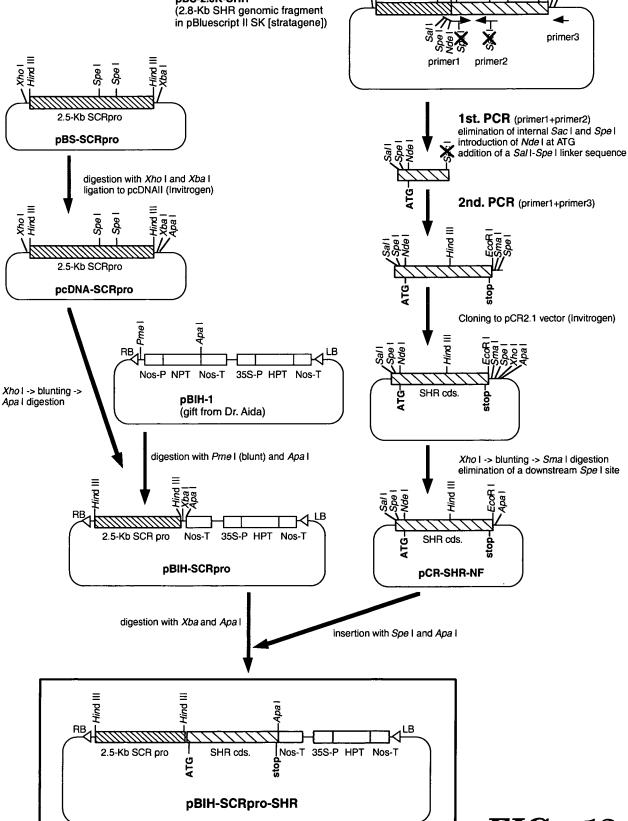


FIG. 12D

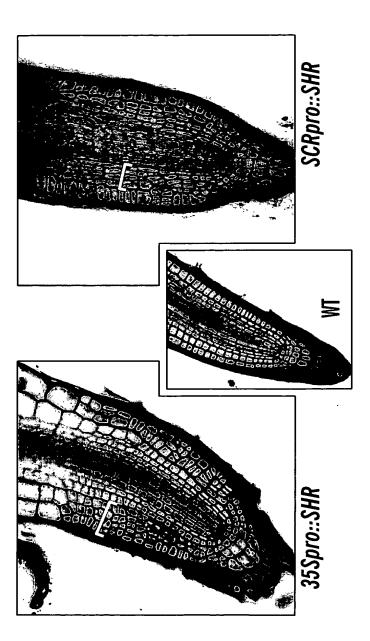


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pBS-2.8K-SHR



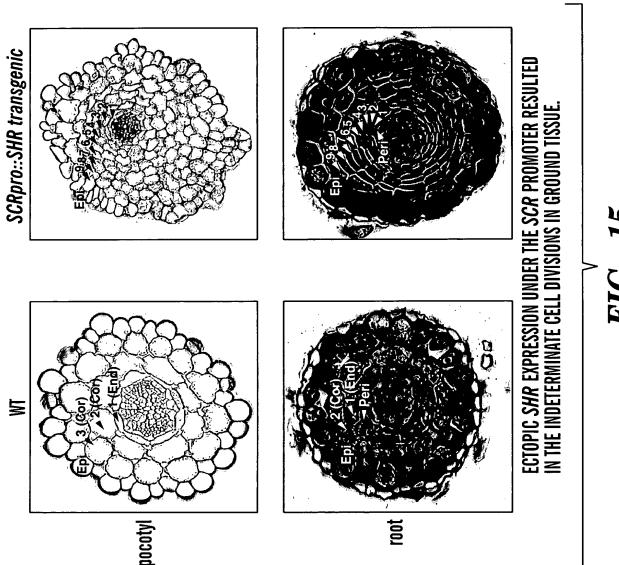




ECTOPIC SHR EXPRESSION CAUSED ABNORMAL ROOT CELL DIVISIONS

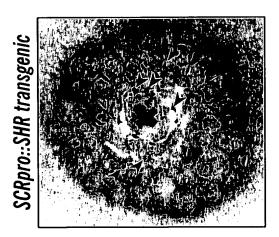
FIG. 14

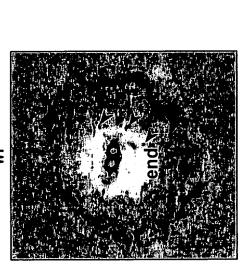












Casparian strip occurs ectopically in the SCRpro::SHR transgenic root